

What is claimed is:

Claim 1 ① As a starting material, the sclerotia and the hyphae of Kabanoanatake shall be treated with a PBS solution, butanol, ethyl acetate or acetone to obtain the respective insoluble matters. ② The extract of Kabanoanatake and the culture medium shall be adsorbed to carbon or charcoal to obtain their nonadsorbable matters. ③ Kabanoanatake (sclerotia and hyphae) shall be boiled in water of various pHs to obtain its broth. ④ The sclerotia or hyphae of Kabanoanatake shall be treated with chloroform, ethanol, water, ethyl acetate, or mixed solution thereof to obtain the extract. An antiviral therapeutic drug with antibacterial activity, comprising wherein the appropriate powder or extract is contained as the basic active ingredient obtained from substances of molecular weight of 450,000 or less taken from the respective primary processed matters of ①, ②, ③ and ④ by gel filtration. An antiviral therapeutic drug with therapeutic effects on syndromes including those caused by microbes including HIV, comprising a mixture of at least one of the extracts with molecular weight of 450,000 or less obtained from ①, ②, ③ or ④.

Claim 2 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 1, wherein Kabanoanatake is a natural product.

Claim 3 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 1, wherein Kabanoanatake is an artificial-cultured product.

Claim 4 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 3, wherein Kabanoanatake is a sawdust-cultured product.

Claim 5 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 1, wherein said viruses are the HIV virus, the adult T-cell leukemia virus (ATLV), and other retroviruses.

Claim 6 An antiviral therapeutic drug with the therapeutic effects on syndromes described in claim 1, wherein the therapeutic effects of the antiviral therapeutic drug with the therapeutic effects on syndromes described above are effects on illnesses complicated by the group consisting of helicobacter pylori, enteropathogenic Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa, methicillin-resistant Staphylococcus aureus (MRSA) and gas bacilli.

Claim 7 Seed fungi from cultured Kabanoanatake shall be inoculated into the liquid medium containing a mixture of a carbon source selected from the group of malt, glucose, saccharose and starch as well as peptone and yeast extract with water and phosphate buffer, incubating at 20 to 30°C for 20 to 49 days and/or 100 days or longer. The container containing the hyphae inoculated into the culture medium shall be shaken continuously for 24 hours during the incubation period. An antiviral therapeutic drug with the therapeutic effects on syndromes described in claim 1, consisting of collecting the active ingredients from the culture medium containing the incubated hyphae and the grown hyphae.

Claim 8 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, wherein said active ingredients are contained in the medium composed of 10 g of malt extract, 10 g of glucose, 3 g of peptone and 3 g of yeast extract per Liter of the medium.

Claim 9 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, wherein humic acid is further added to said medium.

Claim 10 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, wherein sap of white birch is used instead of or in addition to water in said liquid medium.

Claim 11 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, wherein one or more wood constituents are added to said liquid medium.

Claim 12 Under extreme conditions of temperature and shaking during the incubation and growth described previously, ① the temperature shall be increased to 25 to 33°C in the daytime and shall be decreased to the extremely low temperature of 8 to 10°C at night, and ② shaking shall be conducted for 11 hours. An antiviral therapeutic drug with therapeutic effects on syndromes described in claim 7, wherein the hyphae can be incubated steadily without death by adding wood constituents to these conditions of ① and ② and wherein the active ingredients are collected from the hyphae obtained and the culture medium grown.

Claim 13 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, wherein one or more wood constituents selected from lignin sulfonic acid, lignosulfonic acid sodium salt, lignosulfonic acid sodium salt acetate, lignin alkali, lignin organosolv, lignin organosolv acetate, 2-hydroxypropyl ether, lignin hydrolytic, hydroxymethyl derivative, lignin organosolv propionate, betulin, or lignin salts are added to said liquid medium.

Claim 14 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, wherein said wood constituents are used in the range of concentration between 0.00001% and 0.00075 % (weight) for said liquid medium.

Claim 15 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 14, wherein said wood constituents are used at the concentration of 0.000293% (weight) for said liquid medium.

Claim 16 An antiviral therapeutic drug with the therapeutic effects on syndromes described in claim 1, wherein the Kabanoanatake extract described previously is blended appropriately with powdered milk, powdered hen's egg, soup and fluid diet so as to ingest the antivirally active ingredients with or therapeutic effects on syndromes with nutrients.

Claim 17 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, consisting of determining the time of full formation of said active ingredients based on color of the cultures, protein quantity in the culture medium, decrement of carbon source in the culture medium and pH of culture medium, and collecting said active ingredients.

Claim 18 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 7, wherein said shake culture is performed using devices such as a jar fermenter.

Claim 19 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 1, wherein said culture consists of exposing growing hyphae to light.

Claim 20 An antiviral therapeutic drug with the therapeutic effects on syndromes as claimed in claim 1, wherein said Kabanoanatake extracts are administered orally or via

the anus or the vagina in the form of solid, fluid or liquid to directly inhibit the invasion of viruses from outside into the anus or vagina.

Claim 21 An antiviral therapeutic drug with therapeutic effects on syndromes as claimed in claim 7, wherein amino acids are added to said liquid medium.

Claim 22 An antiviral therapeutic drug with therapeutic effects on syndromes as claimed in claim 1, wherein said virus is an influenza infection.

Claim 23 An antiviral drug as claimed in claim 1, wherein said therapeutic effects on syndromes are SOD-like effects on skin diseases, etc.

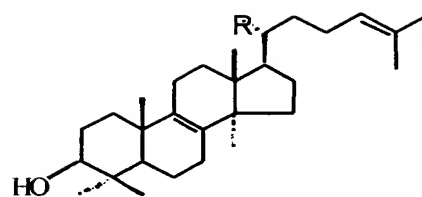
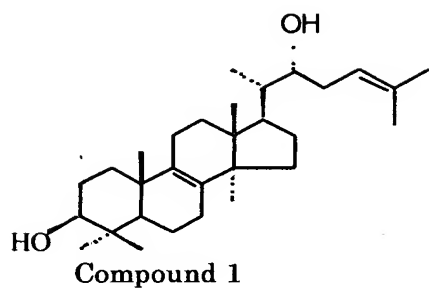
Claim 24 An antiviral drug as claimed in claim 1, wherein said therapeutic effects on syndromes are therapeutic effects on illnesses complicated by methicillin-resistant staphylococcus aureus (MRSA) infections.

Claim 25 An antiviral drug as claimed in claim 1, wherein said therapeutic effects on syndromes are therapeutic effects on illnesses complicated by vancomycin resistant enterococci (VRE) infections.

Claim 26 An antiviral therapeutic drug as claimed in claim 1, wherein said therapeutic effects on syndromes are anti-agglutination effects on fat in internal organs or increasing physical strength.

Claim 27 An antiviral therapeutic drug as claimed in claim 1, wherein said therapeutic effects on syndromes are anti-cancer effects when used with the triterpene compounds shown in the figure (27) or their (pharmaceutically acceptable) salts.

Chemical structure 27

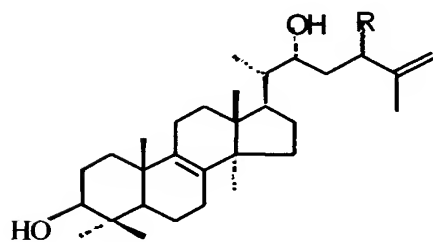
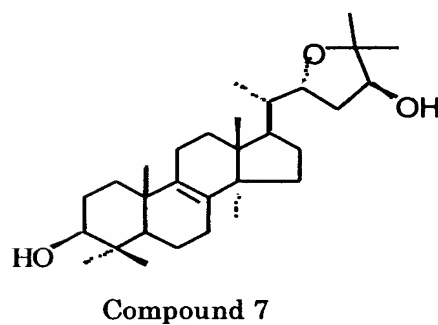
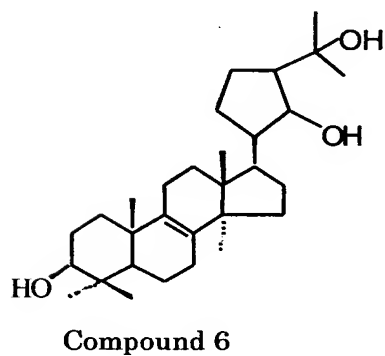


Compound 2 R=COOH

Compound 3 R=CH₃

Compound 5 R=CHO

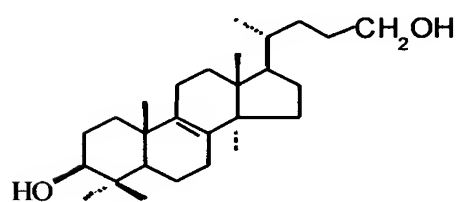
Compound 11 R=CH₂OH



Compound 4 R=H

Compound 8 R=S-OH

Compound 9 R=R-OH



Compound 10

Claim 28 An antiviral therapeutic drug with therapeutic effects on syndromes as claimed in claim 1 with antiviral and antibacterial effects, wherein said active ingredient is pseudo-humic acid.

Claim 29 An antiviral therapeutic drug with therapeutic effects on syndromes as claimed in claim 28 with antiviral and antibacterial effects, wherein said active ingredient is pseudo-humic acid-Na or humic acid-Na.

Claim 30 An antiviral therapeutic drug with therapeutic effects on syndromes as claimed in claim 1, wherein said raw material is a basidiomycetous mushroom, the extracts of which shall be treated at least once with chloroform during production.

Claim 31 An antiviral therapeutic drug with therapeutic effects on syndromes as claimed in claim 30, wherein said basidiomycetous mushroom is Kabanoanatake.

Claim 32 An antiviral therapeutic drug with therapeutic effects on syndromes as claimed in claims 24 and 25 with anti-vancomycin resistant enterococci (VRE) and anti-methicillin-resistant *Staphylococcus aureus* effects, wherein said active ingredients are linoleic acid and linolenic acid.